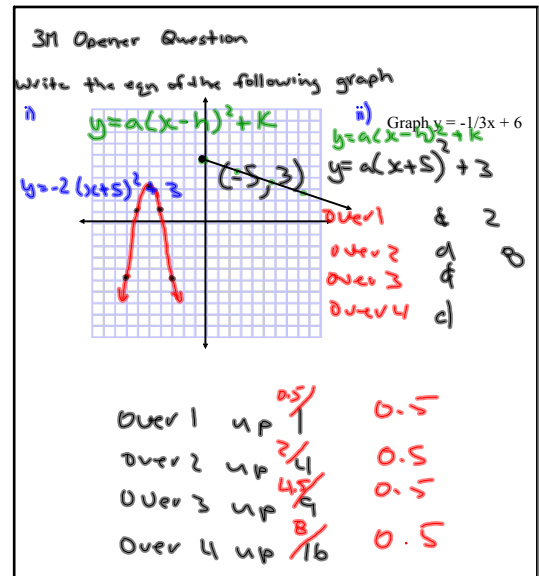


Feb 4-7:51 AM



Feb 4-7:51 AM

Sec 1.1 Characteristics of a Function

Terminology

Table of Values

x	y
1	2
2	4
3	6
4	8

x = ind variable

y = dep variable

Domain - set of values for x is 1-4

Range - set of values which describes the y variable is 2-8

Feb 4-1:55 PM

Function - a relation in which there is only one value of the dep variable for each value of the ind variable

(for every x / only one y)

For a function, knowing the value of the ind variable enables you to predict the value of the dep variable

Feb 4-1:59 PM

## 2 Tests

### 1) Mapping Diagram

Date A creates a scatter plot

Date B creates a function (linear)

### 2) Vertical Line Test

with a graph if a vertical line can be drawn through the graph such that for a given x there is more than one possible y  $\Rightarrow$  It is not a function

ie 2 & 3 p 10 & 11

Feb 4-2:03 PM

## Representing Functions

R = real numbers (set of all decimals positive, negative or 0 terminating or non terminating)

W = whole numbers (does not include 0)

Domain & Range of a function

Feb 4-2:16 PM

Stating Domain  $x$  variable

$$D = \{x \in \mathbb{R} \mid x \neq 0\}$$

$x$  (is a member of) the set of Real #s  
 $\in$   $\mathbb{R}$

such that  $x$  is not equal to 0  
 $\neq$

ie Example 3 a) p 11

Feb 4-2:26 PM

Range

$$R = \{y \in \mathbb{R} \mid 1 \leq y \leq 8.5\}$$

$y$  is a member of real numbers  
 such that  $y$  is greater than or equal to 1 but less than or equal to 8.5.

p 13-16  
 $\{2-4, 6-8, 10, 11, 15, 16\}$

Feb 4-2:30 PM

6 a)

$$D = \{x \in \mathbb{R} \mid 0 \leq x \leq 4\}$$

$$R = \{y \in \mathbb{W} \mid 2 \leq y \leq 10\}$$

b) not a function  
 c) not a function  
 d)  $D = \{x \in \mathbb{W} \mid 2 \leq x \leq 10\}$   
 $R = \{y \in \mathbb{W} \mid y = 1\}$

7 a)  $D = \{x \in \mathbb{R}\}$   
 $R = \{y \in \mathbb{R} \mid 1 \leq y\}$

Sep 6-9:17 AM

$x$

$$D = \{x \in \mathbb{W} \mid x \neq 2, x \neq 5\}$$

$R = \{y \in \mathbb{W} \mid 1 \leq y \leq 5, y \neq 3, y \neq 4\}$

$D = \{x \in \mathbb{W} \mid 1 \leq x \leq 3\}$   
 $R = \{y \in \mathbb{W} \mid y = 4\}$

Sep 8-10:27 AM

$+b$

$$D = \{x \in \mathbb{R}\}$$

$$R = \{y \in \mathbb{R} \mid y = b\}$$

$(x, y)$

$$D = \{x \in \mathbb{R}\}$$

$$R = \{y \in \mathbb{R} \mid y \leq b\}$$

Sep 8-10:45 AM

$y = -5t^2 + 6t$

$(2, 30)$

$$D = \{x \in \mathbb{R} \mid 0 \leq x \leq 4\}$$

$$R = \{y \in \mathbb{R} \mid 0 \leq y \leq 30\}$$

Sep 14-11:17 AM